

## CLAIMS

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. A radiation bag system for protecting a sensitive radiation detecting device from "contamination" by nuclear fission byproducts comprising, in combination:

a major body portion in a generally rectangular configuration including a linear bottom edge and a parallel linear top edge with perpendicular side edges there between, the side edges including a closed discontinuous side edge and an open parallel continuous side edge;

a minor handle portion in a generally rectangular configuration including a linear bottom edge and a parallel linear top edge with perpendicular side edges there between;

an elongated recess extending inwardly from adjacent to the discontinuous side edge toward the continuous side edge, the recess being of a length essentially equal to half the length of the bottom edge of the body portion, the recess having a top edge coextensive with the bottom edge of the handle portion, the recess having a bottom edge coextensive with the top edge of the body portion, the recess terminating with a C-shaped end;

an elongated intermediate portion coupling the body portion and the handle portion, the intermediate portion extending from the C-shaped end of the recess to the continuous side edge, the

recess and the intermediate portion being in substantial linear alignment parallel with the bottom edge of the body portion;

the body portion and handle portion and intermediate portions being fabricated of a flexible transparent polyethylene sheet material with an upper sheet and a congruent lower sheet coupled along the upper edge of the handle portion and the lower edge of the body portion, the upper sheet and lower sheet also coupled along the upper and lower edges and C-shaped end of the recess, the sheets thus adapted to form a major chamber in the body portion for a radiation detecting device, the sheets thus adapted to form a minor chamber in the handle portion for the handle of a radiation detecting device, the sheets thus adapted to form an intermediate chamber in the intermediate portion for a riser coupling a radiation detecting device to its handle;

a pleat fabricated of a flexible transparent polyethylene sheet material folded to form a pleat line at an interior edge and extending to an exterior edge coupling with the discontinuous side edges of the body and handle portions, the pleat also having parallel edges coupling with the top and bottom edges of the handle portion and coupling with the top and bottom edges of the body portion, the pleat adapted to close the chambers when a radiation detecting device is inserted into the body and handle portion through the continuous side edge; and

a closure mechanism for holding shut at least one side edge of the body portion when the radiation detecting device is contained within the body, handle and intermediate portions during operation and use.

2. A radiation bag system for protecting a sensitive radiation detecting device from "contamination" by nuclear fission byproducts comprising, in combination:

a major body portion in a generally rectangular configuration including a linear bottom edge and a parallel linear top edge with perpendicular side edges there between, the side edges including a closed discontinuous side edge and an open parallel continuous side edge;

a minor handle portion in a generally rectangular configuration including a linear bottom edge and a parallel linear top edge formed as an extension of the top edge of the body portion and with perpendicular side edges there between;

the body portion and handle portion being fabricated of a flexible transparent polyethylene with an upper sheet and a congruent lower sheet coupled along the upper edge of the handle portion and the lower edge of the body portion, the sheets thus adapted to form a major chamber in the body portion for a radiation detecting device, the sheets thus adapted to form a minor chamber in the handle portion for the handle of a radiation detecting device;

a pleat fabricated of a flexible transparent polyethylene sheet material folded to form a pleat line at an upper edge and extending to an lower edge coupling with the bottom edge of the body and portion, the pleat also having parallel edges coupling with the side edges of the body portion, the pleat adapted to close the chambers when a radiation detecting device is inserted into the body and handle portion through the continuous side edge;

a secondary cover in a generally rectangular configuration with a projection of a reduced size, the secondary cover being fabricated of a flexible transparent polyethylene with an upper sheet and a congruent lower sheet coupled along their upper and lower edges and along the projection but uncoupled along the edge opposite from the projection, the sheets thus adapted to form a major chamber for a radiation probe, the sheets thus adapted to form a minor chamber in the projection for a tip of the probe, the body portion having a circular aperture for the projection of a probe there through; and

a closure mechanism for holding shut the continuous side edge of the body portion when the radiation detecting device is contained within the body and handle during operation and use.

3. A radiation bag system comprising:

a major body portion in a generally rectangular configuration including a linear bottom edge and a parallel

linear top edge with perpendicular side edges there between, the side edges including a discontinuous side edge and a parallel continuous side edge; and

a minor handle portion in a generally rectangular configuration including a linear bottom edge and a parallel linear top edge with perpendicular side edges there between;

the body portion and handle portion being fabricated of a flexible sheet material with an upper sheet and a congruent lower sheet coupled along the upper edge of the handle portion and the lower edge of the body portion, the upper sheet and lower sheet also coupled along the discontinuous edge, the sheets thus adapted to form a major chamber in the body portion, the sheets thus adapted to form a minor chamber in the handle portion.

4. The system as set forth in claim 3 and further including a pleat in the body portion.

5. The system as set forth in claim 2 wherein the handle portion is adjacent to the top edge of the body portion.

6. The system as set forth in claim 3 wherein the handle portion is adjacent to the discontinuous side edge of the body portion.

7. The system as set forth in claim 6 and further including a secondary cover for a probe of a radiation detecting device.